

The opinion in support of the decision being entered today is
not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAE-HO CHOO,
BAEK-KYUN AND HYUNG-WOO NAM

Appeal 2007-2554
Application 10/667,515
Technology Center 1700

Decided: August 21, 2007

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and PETER F.
KRATZ, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 8-13. Claim 8 is
illustrative:

8. An apparatus for cutting a non-metallic substrate, comprising:

a first laser beam generating means that generates a first laser beam
for breaking molecular bonds of the non-metallic substrate material so as to

heat a cutting path formed on the non-metallic substrate and to form a scribe line having a crack to a desired depth; and

a second laser beam generating means that generates a second laser beam for propagating the crack along a scanning path of the first laser beam in a depth direction of the substrate,

wherein the apparatus cuts the non-metallic substrate without a cooling device.

In addition to the admitted prior art found in Appellants' Specification, the Examiner relies upon the following references:

Chui	US 3,930,825	Jan. 6, 1976
Kitajima	US 6,320,158 B1	Nov. 20, 2001
Boyle	US 6,841,482 B2	Jan. 11, 2005

Appellants' admission on page 5, lines 1-18 of the instant Specification.

Appellants' claimed invention is directed to an apparatus for cutting a non-metallic substrate comprising means for generating a first and second laser beam. The first laser beam is used to break the molecular bonds of the substrate to heat a cutting path and form a scribe line therein, while the second laser beam is used for propagating the crack along a scanning path of the first laser beam. The apparatus cuts the substrate without a cooling device.

Appealed claim 8 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Chui. The appealed claims also stand rejected under 35 U.S.C. § 103(a) as follows:

- (a) claims 9-13 over Chui,
- (b) claims 8, 9, 11, and 13 over the admitted prior art,

- (c) claim 10 over the admitted prior art in view of Kitajima, and
- (d) claim 12 over the admitted prior art in view of Boyle.

Appellants do not present an argument that is reasonably specific to any particular claim on appeal. Accordingly, the groups of claims separately rejected by the Examiner stand or fall together.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we find that the Examiner's rejections are well-founded and supported by the prior art evidence relied upon. Accordingly, we will sustain the Examiner's rejections for the reasons set forth in the Answer, and we add the following emphasis only.

We consider first the Examiner's § 102 rejection of claim 8 over Chui. Thus thrust of the Examiner's rejection is that claim 8 defines an apparatus, not a method of using the apparatus, and there is no structural distinction between the apparatus within the scope of claim 8 and that fairly described by Chui. We agree. Claim 8 defines a structure comprising a first laser beam generating means and a second laser beam generating means for cutting a non-metallic substrate. The claim recitations (for breaking molecular bonds of the non-metallic substrate ..." and "for propagating the crack along the scanning path of the first laser beam ..." are statements of intended use that do not further limit the structures of the first and second laser beam generating means. While the first and second laser beam generating means of Chui are not taught to be used in the same manner as Appellants use the claimed apparatus, it is reasonable to conclude that the apparatus of Chui is fully capable of performing the claimed intended uses

of the first and second laser beam generating means. Chui teaches that the first and second laser cutting devices are supported in identical manner on I-beams and "are independently moveable in response to signals developed by any suitable control device" (sentence bridging cols. 2-3). We have no reason to believe that the laser beams of Chui cannot be moved over the same area of the substrate inasmuch as the movement of the beams begins and ends at the same point on the substrate. Significantly, Appellants have advanced no argument that the apparatus of Chui is incapable of performing the claimed intended use. Rather, Appellants' arguments are directed to Chui's failure to disclose a laser cutting method which corresponds to Appellants' intended method.

We note that Appellants present no argument against the Examiner's § 103 rejection of claims 9-13 over Chui.

As for the Examiner's § 103 rejection of claims 8, 9, 11, and 13 over the admitted prior art, we perceive no structural distinction between the prior art apparatus described at page 5 of the present Specification and apparatus within the scope of claim 8. The apparatus of the admitted prior art, like the claimed apparatus, comprises a first laser beam generating means and a second laser beam generating means which focus a laser beam on the same area of the substrate to be cut. While the apparatus of the admitted prior art also employs a cooling fluid beam 14, we find that the prior art apparatus is fully capable of cutting the non-metallic substrate without a cooling device, which is all that is required by the appealed claims. It can hardly be gainsaid that the first and second laser beam generating means of the admitted prior art apparatus are incapable of cutting the non-metallic substrate without the

use of a cooling device. Again, it must be emphasized that Appellants are not claiming a method of cutting a non-metallic substrate, but, rather, an apparatus for doing so which, we find, is not structurally distinct from the apparatus of the admitted prior art.

Moreover, we fully concur with the Examiner that one of ordinary skill in the art would have found it obvious to eliminate the cooling beam of the admitted prior art along with the advantage that cooling affords.

Appellants do not separately argue the Examiner's § 103 rejections over the admitted prior art in view of Kitajima and Boyle.

As a final point, with respect to the § 103 rejections, Appellants base no argument upon objective evidence of nonobviousness, such as unexpected results.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claim is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(iv)(effective Sept. 13, 2004).

AFFIRMED

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